

## CLAIMS:

1. A method of isolating a thiol R'SH from a thiol-containing mixture, the method including the steps of  
forming a mixed disulphide R'SSR of the thiol R'SH in the mixture, in which R is a non-immobilised hydrophobic moiety;  
purifying the mixed disulphide R'SSR;  
reducing the purified mixed disulphide R'SSR to produce a mixture of the thiols R'SH and RSH; and  
isolating the thiol R'SH.
2. A method as claimed in Claim 1, in which purifying the mixed disulphide R'SSR includes exploiting an increased hydrophobicity thereof relative to the thiol R'SH.
3. A method as claimed in Claim 2, in which the mixed disulphide R'SSR is purified by selective precipitation.
4. A method as claimed in Claim 2, in which the mixed disulphide R'SSR is purified by chromatography.
5. A method as claimed in Claim 4, in which the mixed disulphide is purified by means of reversed phase high performance liquid chromatography (HPLC).
6. A method as claimed in any of the preceding claims, in which forming the mixed disulphide includes reacting the free thiol species

R'SH with a mixed disulphide compound R'SSR, in which R' is a 2-thiopyridyl group and R is a non-polar thiol group.

7. A method as claimed in any one of the preceding claims, in which the purified mixed disulphide is reduced with dithiothreitol or -mercaptoethanol.
8. A method as claimed in any one of the preceding claims in which the thiol R'SH is isolated by high performance liquid chromatography (HPLC).
9. A method as claimed in Claim 8, in which the high performance liquid chromatography is performed on a C18 reversed phase medium having a polar mobile phase.
10. A method as claimed in Claim 9, in which the mobile phase includes at least one compound selected from the group comprising water and acetonitrile.
11. A method as claimed in any one of the preceding claims, in which the group R is a substituted or unsubstituted polynuclear aromatic group.
12. A method as claimed in Claim 11, in which the group R is a 6-hydroxynaphthyl group.

13. A method as claimed in Claim 12, in which the mixed disulphide is 2-thiopyridyl-6-hydroxynaphthyldisulphide.
14. A method as claimed in Claim 13, in which the thiol R'SH is 1-D-myo-inosyl-2-deoxy-2-(N-acetyl-L-cysteinyl)amino- $\alpha$ -D-glucopyranoside, or mycothiol.
15. A method as claimed in claim 14, in which the mixed disulphide is 2-S-(mycothioly)-6-hydroxynaphthalenedisulphide.
16. A disulphide of the formula R'SSR in which R'S is mycothioly and R of the substituent -RS is a hydrophobic moiety.
17. A disulphide as claimed in Claim 16, in which R is a polynuclear aromatic group.
18. A disulphide as claimed in Claim 17, in which R is the 6-hydroxynaphthyl group.